



# Quick Tips

## Analysis of Retrospective Post-then-Pre Data

### Situation

Jane Schaaf, family living educator in Crawford County, teaches an eight-hour *Parenting after Divorce* class. After completing the class, participants fill out an end-of-session questionnaire. Jane wanted additional information to see if the class is helpful in the long run, so she developed and sent a mail survey and now has the results. She asks, what do I do with the data from the following question?

Question: Please circle the phrase that best describes the relationship between you and your child(ren)'s other parent.

| Relationship  | After participating in the course |            |       |               | Before participating in the course |            |       |               |
|---|-----------------------------------|------------|-------|---------------|------------------------------------|------------|-------|---------------|
|   | Almost Never                      | Some times | Often | Almost Always | Almost Never                       | Some times | Often | Almost Always |
| a) I accept the other parent's parenting style.             | 1                                 | 2          | 3     | 4             | 1                                  | 2          | 3     | 4             |
| b) I say nice things about the other parent to my children. | 1                                 | 2          | 3     | 4             | 1                                  | 2          | 3     | 4             |
| c) We co-parent cooperatively.                              | 1                                 | 2          | 3     | 4             | 1                                  | 2          | 3     | 4             |
| d) We argue in front of our children.                       | 1                                 | 2          | 3     | 4             | 1                                  | 2          | 3     | 4             |

*Note: Not all items are included in this example of the original question.*

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For a retrospective question like the one above, here are some considerations:

**Determine level of change.** Decide what you consider a worthwhile level of change for program participants and why you think that. Write down any results you would particularly like to see. Ideally, you should do this before distributing the questionnaire, but if you did not, spend a few minutes thinking about the amount of change you would consider meaningful.

**Check your data.** The number of individuals responding to each after-and-before item should be the same. If someone answered one section of the instrument, but not the other, then drop that person from your analysis.

**Enter your data.** With a limited number of respondents (in this case Jane has 16 usable questionnaires), you could simply hand-tally the number of responses to each item as follows:

| Relationship  | After participating in the course |            |       |               | Before participating in the course |            |       |               |
|---|-----------------------------------|------------|-------|---------------|------------------------------------|------------|-------|---------------|
|   | Almost Never                      | Some times | Often | Almost Always | Almost Never                       | Some times | Often | Almost Always |
| a) I accept the other parent's parenting style.             | 1                                 | 4          | 3     | 8             | 1                                  | 6          | 4     | 5             |
| b) I say nice things about the other parent to my children. | 6                                 | 4          | 5     | 1             | 8                                  | 6          | 1     | 1             |
| c) We co-parent cooperatively.                              | 12                                | 4          | 0     | 0             | 10                                 | 4          | 1     | 1             |
| d) We argue in front of our children.                       | 14                                | 2          | 0     | 0             | 13                                 | 2          | 1     | 0             |

**Make sense of the data.** (1) One way to look at the information is to compare specific values at “after” and “before”. For example, determine the percentage of people who answer almost always for “after” and compare it to the percentage of those who answer almost always for “before.” In other words, compare the highest values for each relationship item. Or, compare the percentage who answer almost never for “after” and compare it to the percentage who answer almost never for “before.”

Note: You might change the numbers to percentages. Remember that the denominator for both the “before” and “after” responses should be the same. Use the number of individuals who actually responded as the denominator. You may have 16 returned surveys, but not all 16 individuals may answer every item.

(2) In some cases, you might want to combine categories if that is justifiable. For example, you could combine “sometimes” and “often” and compare after-and-before responses for this combined category. Or, you might combine the lowest two categories and the highest two categories and compare their after-and-before responses. Make sure you share what you did and why.

(3) Another way to evaluate the data is to look at individual change. With this approach, you match each individual’s after-and-before responses to show individual gain. Rather than combining responses that may mask individual variation, look at each individual’s responses to each item. For example, if a participant answered “sometimes” for “after” and “almost never” for “before,” the participant progressed one level. If she answered “often” for “after,” she progressed two levels and so on. If the participant answered “almost never” for “after,” she progressed zero levels. This analysis is sensitive to movement and individual change. You can summarize by reporting the number of participants who progressed in each level.

**Interpretation.** How do results compare? Do they support the level of change you hoped would occur? Are the results higher or lower than expected? You may wish to discuss the results with a colleague or program participants in order to understand better their meaning.

Jane found that the results were lower than she expected. When she looked closer, she realized that for some items, the wording was difficult to understand, sensitive, or asked about issues outside the participant’s control. The order of the scale changed and might have been confusing. Also, she realized that clearer instructions might have helped the respondent better understand the post-then-pre question and how to answer (refer to Quick Tip #28). The questionnaire included several open-ended questions that provided additional insights and indicated positive changes. Jane also has data from the end-of-session questionnaire that she will use to explain more completely the results of her parenting series.